INTERNATIONAL SEARCH REPORT

Int[illegible]nal Application No
PCT/US 03/36568

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C23C16/06 C23C16/18 C07F19/00 C07C237/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C23C C07C C07F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	GB 2 295 392 A (ASS OCTEL) 29 May 1996 (1996-05-29) abstract; claims 1,3	1-13
A	GB 2 295 393 A (ASS OCTEL) 29 May 1996 (1996-05-29) abstract; claim 1 page 1	1-13
A	US 5 834 058 A (BARKER JAMES ET AL) 10 November 1998 (1998-11-10) abstract; claims 1,8,13 page 1	1-13

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
9 December 2004	17.01.05

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Hintermaier, F

Form PCT/ISA/210 (second sheet) (January 2004)

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BARKER J ET AL: "N,N'-Unsubstituted amidinato metallacycle complexes of Group 13 metal alkyls: the crystal structure of trimeric '{Me2Al(mu-HNCPhNH)}3!" JOURNAL OF ORGANOMETALLIC CHEMISTRY, ELSEVIER-SEQUOIA S.A. LAUSANNE, CH, vol. 586, no. 2, 5 September 1999 (1999-09-05), pages 138-144, XP004183020 ISSN: 0022-328X the whole document	1-13
A	US 5 235 078 A (POHL LUDWIG ET AL) 10 August 1993 (1993-08-10) abstract column 1, line 22 - line 56	1-13
X	FRANK T. EDELMANN: COORDINATION CHEMISTRY REVIEWS, vol. 137, 1994, pages 403-481, XP002309880	14,16,18
A	page 457 page 460 page 467	15,17,19
X	JOSEPH A.R. SCHMIDT ET AL.: "First-row transition metal complexes of sterically-hindered amidinates" J.CHEM.SOC., DALTON TRANS., vol. 2002, 15 August 2002 (2002-08-15), pages 3454-3461, XP002309881 page 3454	16,18
P,X	AZWANA R. SADIQUE, ET AL.: "A weak, short metal-metal bond in a chromium(II) amidinate complex" J.AM.CHEM.SOC., vol. 2003, no. 125, 6 June 2003 (2003-06-06), pages 7774-7775, XP002309882 page 7774	16
X	SHIBAYAMA K ET AL: "LIVING POLYMERIZATION OF CARBODIIMIDES INITIATED BY COPPER(I) AND COPPER(II) AMIDINATE COMPLEXES" MACROMOLECULES, AMERICAN CHEMICAL SOCIETY. EASTON, US, vol. 30, no. 11, 2 June 1997 (1997-06-02), pages 3159-3163, XP000691132 ISSN: 0024-9297 page 3160	14

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JAMES BARKER ET AL.: "The coordination chemistry of the amidine ligand" COORDINATION CHEMISTRY REVIEWS, vol. 133, 1994, pages 219-300, XP002309883 page 271	14
A	MARTYN P. COLES, ET AL: "synthesis and structures of mono- and bis(amidinate) complexes of aluminum" ORGANOMETALLICS, vol. 16, 1997, pages 5183-5194, XP002309884 the whole document	14-19

INTERNATIONAL SEARCH REPORT

nformation on patent family members

Inte nal Application No
PCT/US 03/36568

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2295392 A	29-05-1996	NONE	
GB 2295393 A	29-05-1996	NONE	
US 5834058 A	10-11-1998	AU 7270694 A	28-02-1995
		DE 69414257 D1	03-12-1998
		DE 69414257 T2	25-03-1999
		EP 0712409 A1	22-05-1996
		WO 9504063 A1	09-02-1995
US 5235078 A	10-08-1993	DE 4009394 A1	13-06-1991
		DE 59010508 D1	24-10-1996
		EP 0432574 A2	19-06-1991
		JP 3190884 A	20-08-1991

INTERNATIONAL SEARCH REPORT

national application No.
PCT/US 03/36568

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13

Use of volatile metal amidinates in a process in which a heated substrate is exposed alternately to vapors of the amidinate and to vapors of a further reactant, for example for deposition of a metal, a nitride or an oxide layer.

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2. claims: 14-19

Volatile metal amidinates comprising only one type of amidine ligand as its ligands.
